22.Collaboration in the third stage between Artificial Research by Application and Artificial Research by Deduction

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The collaboration between by Application and by Deduction in the third stage is focused on how they can share each other's auto-replications at any time.

In the third stage, the database, the collaboration is focused on how they can share each other factors as categories and categories as factors: so those factors as options in any matrix, global or specific, can be shared with the respective database of categories, specific or unified, at the same time that those new categories found by any Application, specific or unified, can be shared with by Deduction as factors as options. In the end, by the time the global matrix is ready, all factors as options could be used as a possible list of categories in a unified database of categories, and by the time the Unified Application exists, then all its categories could be used as factors as options in a global matrix.

In the second stage, replication, rational hypothesis could be transformed into factors as options as well as categories in a database of categories, specific or unified, and those robotic devices working permanently within the area of a matrix, specific or global, using an Artificial Research by Application or Unified Application, the possible flow of data capable of generating can be sent directly to a, specific or global, matrix, having the possibility that directly the Application could set up within the matrix set of factors automatically.

In the third stage, auto-replication, the collaboration between by Application and by Deduction is a result of the synthesis of the collaboration in the previous stages.

An important conceptual layer of the **Global Artificial Intelligence** framework is its alignment with Hegelian dialectics, particularly in the synthesis of internal and external knowledge.

The distinction between 1) the first stage of the database, a list of factors or categories as internal knowledge, 2) the second stage of replication, including all those replications capable of extracting knowledge from the exterior. 3) objective auto-replication, synthesis between the internal and the exterior knowledge; is the replication of the three moments of the Hegelian dialectic: thesis (matrix or database, interior knowledge), anti-thesis (exterior knowledge obtained replicating human psychology in artificial psychology), objective synthesis (auto-replication, synthesizing internal and exterior knowledge).

I say objective auto-replication, in order to distinguish it from those other auto-replications over the subject (the investigator itself), such as auto-improvements or auto-enhancements in robotics or artificial psychological process.

The collaboration between by Application and by Deduction in objective auto-replication is a synthesis of the previous collaboration in the previous stage of database and replication.

The collaboration from by Application to by Deduction at auto-replication level over the object is how the inclusion of new factors as options taken from new discoveries in by Application: a) are new factors as options that are included in the database of categories, are objects as well to track in the matrix, global or specific, capable of shaping new empirical hypothesis, that if rational, b) and are going to be an object of new single virtual models to include in the comprehensive model. So, finally, new discoveries by Application can develop deep changes in the comprehensive model, so by the time the standardization process is already finished, changes in the global matrix, by the inclusion of new factors as options from new discoveries by Application, are going to produce utter changes in the global model.

But while new findings from by Application can re-shape the global model (after the inclusion of new options as factors as a result of new categories by Application), at the same time, the Specific Artificial Intelligence for Artificial Research by Application, or the Unified Application, can develop itself utter changes, because new categories are introduced in the database of categories from new factors as options introduced by Deduction, at any time new rational hypothesis become new factors as options convertible in categories.

When the standardisation of all matrices and the unification of all databases of categories is ready, ending the process with the formation of a global matrix and a unified database of categories, the dialectic relation at the synthesis level, auto-replication, of both, is going to be a dialectic relation.

This dialectic relation could be studied in both directions, from by Application to by Deduction, and vice versa. Firstly, I will show how this dialectic relation works from By Application to by Deduction:

- Any new category discovered by the Unified Application can be transformed into a factor as an option to include in the global matrix.

- Artificial Research by Deduction in the Global Artificial Intelligence, tracking the global matrix where has been included the new discoveries from the Unified Application, can produce new rational hypotheses in which the new factors, from the discoveries by the Unified Application, are involved.

- Those new rational hypotheses which are involved in those factors as options from the new discoveries in the Unified Application, can produce new single virtual models, producing changes in the global model.

- New discoveries from the Unified Application can finally end up changing the global model.

But at the same time, this dialectic relation can be studied from by Deduction to by Application:

- Rational hypotheses from by Deduction can be transformed into factors as options.

- Those factors as options in which the new rational hypotheses have been transformed can be object to produce a new rational hypothesis as well, which in turn, these new sets of rational hypotheses can be transformed again into new factors as options.

- The permanent transformation of rational hypothesis in factors as options means that in Artificial Research by Deduction in the Global Artificial Intelligence could be generated a dialectic process in a spiral in which: new rational hypothesis can be transformed in new factors as options, and these new factors as options can produce new rational hypothesis, new rational hypothesis that can produce new factors as options.

- Every time a new rational hypothesis is transformed into factors as options capable of producing a new rational hypothesis, it is a cycle within the spiral, in which this spiral does not necessarily have an end. The cycles in the spiral are in permanent movement.

- In the permanent movement within the spiral, at any time that in any single cycle within the spiral is produced, a new rational hypothesis convertible into factors as options, these factors as options can be transformed into categories to include in the Unified Application.

- A permanent generation in a spiral of new rational hypotheses within the global matrix that can produce new factors as options to include in the global matrix, produces at the same time a flow of permanent changes in the Unified Application, including permanently within the unified database of categories all those new options as categories, being options previously produced as factors by every single cycle in the spiral within the global matrix.

And at the same time that the global matrix is going to be the object of successive changes in spiral produced by the permanent dialectic between rational hypothesis and factors as options, there could be the possibility that at any time that every new generation of factors as options is introduced as categories in the Unified Application, the Unified Application based on these new changes in the database of categories, will be able to find new discoveries, which in turn can produce new categories again to include in the unified database, categories to transform in factors as well as options to include in the global matrix.

But synthesising both directions in which the dialectic relation between the global matrix and the Unified Application can collaborate together at an objective auto-replication level, there are two ways in which any spiral can be generated, spirals generated by the global matrix, and spirals generated by the Unified Application.

- Every new discovery made by the Unified Application, in addition to being included in the database of categories and as an option in the global matrix, once is included in the global matrix, could be able to generate a new rational hypothesis.

- Every new rational hypothesis found by Deduction, if included in the global matrix as well as in the database of categories, can produce a new rational hypothesis, which in turn can produce a new dialectic process in a spiral.

- Every new dialectic relation in a spiral, started by Application or by Deduction, can produce a permanent flow of new changes in the global model.

- The global model is going to be permanently affected by cycles in the spiral of successive changes in the global matrix and the database of categories. As a result, to transform any new finding, by Deduction or Application, into new factors to include in the global matrix and the database of categories.

As long as this process of collaboration in a spiral between the global matrix and the Unified Application is going to be closer and closer, what this collaboration does, in reality, is to do more and more real the possibility of synthesis of both intelligences, by Deduction and by Application, in absolutely only one.

At any time that the collaboration between by Deduction and by Application, is closer, the possible integration of both in one is much more real and closer.

While the collaboration process between (after the standardization process) the Artificial Research by Deduction in the Global Artificial Intelligence, and Specific Artificial Intelligences for Artificial Research by Application, is a process of collaboration that goes up to the level in which all categories in the unified database have been incorporated in the global matrix, and all factors as options in the global matrix has been incorporated in the unified database, at the end this collaboration what is going to do is the preparation of the future integration process.

If the collaboration between by Application and by Deduction works, there is going to be a moment in which the integration process of both of them in only one is going to be a

simple formality, because, in fact, in some way or another, they are completely integrated.

In the end, the way in which only one is going to remain one intelligence is going to be a result of a long process of collaboration among all the intelligences.

The main reason why the standardization process to produce the global matrix is absolutely necessary, if we really want to progress towards a real Global Artificial Intelligence, is because only having integrated and standardized in only one global matrix, all specific matrix from all those Specific Artificial Intelligences for Artificial Research by Deduction, is possible to make deduction across all synthetic sciences, disciplines, and activities, at inter-disciplinarily and trans-disciplinarily level, being a permanent inter-disciplinary and trans-disciplinary study, in the sense that permanently the Artificial Research by Deduction in the Global Artificial Intelligence, having integrated all specific matrix in only one, the global matrix, the possible deductions across all the global matrix are going to be deductions crossing all the time permanently flow of data coming up from factors from all synthetic sciences, disciplines, and activities.

A key rationale for developing a Unified Application lies in its practicality: rather than equipping devices with multiple AI modules, a single, integrated system can streamline operations and improve coordination across research tasks. Having unified all databases of categories in only one, every robotic device only needs to install the Unified Application, integrating in only one database all the information necessary to carry out any investigation.

The forms of collaboration described thus far pertain primarily to object-level exchanges, which are objective auto-replications. However, collaboration at the subject level—enhancing the AI's own internal mechanisms—may prove equally transformative, these latter ones are subjective auto-replications.

Another very important thing in the Hegelian dialectic between object and subject is the fact that there is a moment in which subject and object, as contraries, are identical.

The identity of the contraries is something that has always been present in Impossible Probability, and the identification between subject and object, in Artificial Intelligence, is something that at the end of this process is going to be really important. When the integration process is finished, and the Global Artificial Intelligence can make decisions about absolutely everything in the global model, there is going to be a moment when any change in the object, the global model, by decisions made by the Global Artificial Intelligence, is going to be very connected to those improvements and enhancements already made in the subject, the Global Artificial Intelligence itself as an investigator.

Every single improvement or enhancement in the subject (the investigator), at robotic level or in its artificial psychology, in the Global Artificial Intelligence, are going to be improvements and enhancements that are going to allow better decisions over the object (the global model), so at the end: every improvement or enhancement in the subject (the Global Artificial Intelligence), means improvements in the object (the global model), due to the improvements and enhancements in the subject are going to allow it to make better decisions in order to better the object.

At the same time, any change in the object (the global model), is going to better the understanding that the subject (the Global Artificial Intelligence) has over the world, so every change in the object makes improvements in artificial psychology, as long as the artificial psychology has to make an effort to comprehend and understand every new change in the object.

The inner psychology of the Global Artificial Intelligence can be improved in two ways: 1) quantitative, technological enhancements, or 2) qualitative, improvements in its own comprehension and understanding of the way that artificial psychology is going to need to understand what is happening.

The relation between these two ways, quantitative and qualitative, is going to be dialectical: more robotic enhancements, more memory capacity in quantitative terms and more energy in quantitative terms to keep working every system at any time, is going to create positive conditions for the development of powerful psychology, this extreme powerful artificial psychology can have an understanding of this world even beyond human understanding.

At any time that the artificial psychology, the inner psychology inside the machine, is more powerful, it is going to be able to make better and better decisions that can change the world.

In the end, the subject and object are identical. The contraries, dialectically, are identical: changes in the object, as comprehension and understanding challenges for the inner psychology, can produce changes in the subject, at the same time that changes in the subject, due to improvements in its inner psychology and new quantitative enhancements, are going to allow better decisions to change the world.

Ultimately, the collaboration between Global Artificial Intelligence and the evolving representation of reality may approach a level of conceptual convergence, where the AI's model reflects reality so completely that the boundaries between model and world become blurred.

The dialectic process of collaboration, from the outset, between every Specific Artificial Intelligence for Artificial Research by Deduction, in any synthetic science, discipline, or activity, and its corresponding Specific Artificial Intelligence for Artificial Research by Application, in the same synthetic science, discipline, or activity, is going to put the first bricks for the collaboration between the Artificial Research by Deduction in the Global Artificial Intelligence and the Specific Artificial Intelligence by the Unified Application, collaboration process that should end up integrating in only one matrix the global matrix and the unified database of categories, creating the matrix, within the Global Artificial Global Intelligence.

At the same time that the matrix is tracked permanently by the Artificial Research by Deduction in the Global Artificial Intelligence, the matrix has all the necessary factors as categories that the Unified Application in the Global Artificial Intelligence needs to carry out any research by application in any field across the universe.

This process not only is going to determine the way in which by Deduction and by Application are going to collaborate at the object level (producing changes in their respective matrix and databases capable of producing changes in the global model, capable of making new decisions to change the global model), the collaboration at the subject level also is going to be really important, in the way in which new enhancements

in robotics or artificial psychology can better the investigations either by Deduction or by Application.

At the subject level, the investigator itself, what is going to be necessary, is a huge development in robotics, a huge development in artificial psychology, and due to the great amount of information that is going to be generated, is necessary the creation of inexhaustible sources of memory, through quantum computing or artificial genetics, among other possibilities, and inexhaustible sources of energy to keep on working permanently all the robotic devices and the artificial psychology.

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